

5

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The figure consists of seven histograms arranged horizontally, labeled \$k=0\$ through \$k=7\$. Each histogram shows the frequency of the number of non-zero elements in the vector \$\mathbf{x}\_k\$. The x-axis for all plots ranges from approximately \$10^3\$ to \$10^6\$, with major ticks at \$10^3\$, \$10^4\$, and \$10^5\$. The y-axis represents frequency, ranging from 0 to 1000. As \$k\$ increases from 0 to 7, the distribution shifts towards higher values, indicating more non-zero elements in the vectors.